

ANALYTICAL REPORT

Lab Number: L1715142

Client: EQ Northeast, Inc.

185 Industrial Road

P.O. Box 617

Wrentham, MA 02093

ATTN: Michael Sciola Phone: (508) 384-6151

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified Report Date: 05/17/17

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Eight Walkup Drive, Westborough, MA 01581-1019 508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number:

L1715142

Report Date:

05/17/17

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1715142-01	TRAIN WASH WATER #2 TRACK 3	WATER	CRMF 70R THIRD AVENUE, SOMMERVILLE, MA	05/10/17 10:40	05/10/17



Project Name: TRAIN WASH SAMPLE #2 Lab Number: L1715142

Project Number: Not Specified Paper Date: 05/17/17

Project Number: Not Specified Report Date: 05/17/17

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. All specific QC information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY

For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.



Project Name:TRAIN WASH SAMPLE #2Lab Number:L1715142Project Number:Not SpecifiedReport Date:05/17/17

Case Narrative (continued)

Volatile Organics by Method 624

L1715142-01: The sample has elevated detection limits due to the dilution required by the sample matrix. Sample is cloudy with particles.

The WG1001321-13 LCS recovery for benzene (120%), associated with L1715142-01, is outside Alpha's acceptance criteria, but within the acceptance criteria specified in the method.

Semivolatile Organics

L1715142-01: The sample has elevated detection limits due to the dilution required by the elevated concentrations of non-target compounds in the sample.

The WG1002336-2 LCS recoveries, associated with L1715142-01, are above the acceptance criteria for dinbutylphthalate (124%) and di-n-octylphthalate (151%); however, the associated sample is non-detect to the RL for these target analytes. The results of the original analysis are reported.

Chromium, Hexavalent

L1715142-01: The sample has an elevated detection limit due to the dilution required by the sample matrix. The WG1002271-4 MS recovery (57%), performed on L1715142-01, is outside the acceptance criteria; however, the associated LCS recovery is within criteria. No further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Michelle M. Morris

Authorized Signature:

Title: Technical Director/Representative

Date: 05/17/17

ORGANICS



VOLATILES



Serial_No:05171715:39

Project Name: TRAIN WASH SAMPLE #2 Lab Number: L1715142

Project Number: Not Specified Report Date: 05/17/17

SAMPLE RESULTS

Lab ID: L1715142-01 D Date Collected: 05/10/17 10:40

Client ID: TRAIN WASH WATER #2 TRACK 3 Date Received: 05/10/17

Sample Location: CRMF 70R THIRD AVENUE, SOMMERVILLE, MA Field Prep: Not Specified

Matrix: Water Analytical Method: 5,624

Analytical Date: 05/12/17 12:59

Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Volatile Organics by GC/MS - Westborough I	_ab						
Benzene	ND		ug/l	2.0		2	
Acrolein ¹	ND		ug/l	16		2	

Surrogate	% Recovery	Qualifier	Acceptance Criteria	
Pentafluorobenzene	113		80-120	
Fluorobenzene	124	Q	80-120	
4-Bromofluorobenzene	122	Q	80-120	



Project Name: TRAIN WASH SAMPLE #2 Lab Number: L1715142

Project Number: Not Specified Report Date: 05/17/17

Method Blank Analysis Batch Quality Control

Analytical Method: 5,624

Analytical Date: 05/12/17 11:51

Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL	
Volatile Organics by GC/MS	- Westborough Lab	for sampl	e(s): 01	Batch:	WG1001321-14	
Benzene	ND		ug/l	1.0		
Acrolein ¹	ND		ug/l	8.0		

		Acceptance						
Surrogate	%Recovery	Qualifier	Criteria					
Pentafluorobenzene	115		80-120					
Fluorobenzene	120		80-120					
4-Bromofluorobenzene	127	Q	80-120					



Project Name: TRAIN WASH SAMPLE #2

Lab Number:

L1715142 05/17/17

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Report Date:

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
Volatile Organics by GC/MS - Westborough	Lab Associated	sample(s): (01 Batch: WG1	001321-13					
Benzene	120	Q	-		84-116	-		30	
Acrolein ¹	72		-		40-160	-		30	

Surrogate	LCS %Recovery Qual	LCSD %Recovery Q	Acceptance ual Criteria
Pentafluorobenzene	107		80-120
Fluorobenzene	111		80-120
4-Bromofluorobenzene	113		80-120



Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number: L1715142

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery		Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS	- Westborough	Lab Asso	ciated sample(s): 01 QC Ba	tch ID: W	G1001321-	6 QC Samp	le: L171	4667-01	Client ID	: MS Sa	ample
Methylene chloride	ND	200	260	130	Q	-	-		70-111	-		30
1,1-Dichloroethane	ND	200	270	135	Q	-	-		78-116	-		30
Chloroform	ND	200	260	130	Q	-	-		86-111	-		30
Carbon tetrachloride	12	200	280	134	Q	-	-		60-112	-		30
1,2-Dichloropropane	ND	200	270	135	Q	-	-		83-113	-		30
Dibromochloromethane	ND	200	190	95		-	-		58-129	-		30
1,1,2-Trichloroethane	ND	200	180	90		-	-		80-118	-		30
2-Chloroethylvinyl ether	ND	200	190	95		-	-		69-124	-		30
Tetrachloroethene	ND	200	220	110		-	-		80-126	-		30
Chlorobenzene	ND	200	240	120		-	-		80-126	-		30
Trichlorofluoromethane	ND	200	270	135	Q	-	-		83-128	-		30
1,2-Dichloroethane	ND	200	240	120	Q	-	-		82-110	-		30
1,1,1-Trichloroethane	ND	200	260	130	Q	-	-		72-109	-		30
Bromodichloromethane	ND	200	230	115		-	-		71-120	-		30
trans-1,3-Dichloropropene	ND	200	190	95		-	-		73-106	-		30
cis-1,3-Dichloropropene	ND	200	200	100		-	-		78-111	-		30
Bromoform	ND	200	170	85		-	-		45-131	-		30
1,1,2,2-Tetrachloroethane	ND	200	200	100		-	-		81-122	-		30
Benzene	ND	200	270	135	Q	-	-		84-116	-		30
Toluene	ND	200	230	115		-	-		83-121	-		30
Ethylbenzene	ND	200	250	125	Q	-	-		84-123	-		30
Chloromethane	ND	200	220	110		-	-		70-144	-		30
Bromomethane	ND	200	100	50	Q	-	-		63-141	-		30
Vinyl chloride	ND	200	230	115		-	-		56-118	-		30

Project Name: TRAIN WASH SAMPLE #2

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Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Recover Qual Limits	y RPD	RPD Qual Limits
Volatile Organics by GC/MS	S - Westborough	Lab Assoc	ciated sample(s): 01 QC Ba	tch ID: W	G1001321-	6 QC Samp	le: L1714667-01	Client II	D: MS Sample
Chloroethane	ND	200	270	135	Q	-	-	74-130	-	30
1,1-Dichloroethene	ND	200	280	140	Q	-	-	77-116	-	30
trans-1,2-Dichloroethene	ND	200	270	135	Q	-	-	81-121	-	30
cis-1,2-Dichloroethene ¹	ND	200	230	115	Q	-	-	85-110	-	30
Trichloroethene	ND	200	250	125	Q	-	-	84-118	-	30
1,2-Dichlorobenzene	ND	200	270	135	Q	-	-	78-128	-	30
1,3-Dichlorobenzene	ND	200	240	120		-	-	77-125	-	30
1,4-Dichlorobenzene	ND	200	240	120		-	-	77-125	-	30
p/m-Xylene ¹	ND	400	460	115		-	-	81-121	-	30
o-Xylene ¹	ND	200	230	115		-	-	81-124	-	30
Styrene ¹	ND	200	230	115		-	-	84-133	-	30
Acetone ¹	120	500	600	96		-	-	40-160	-	30
Carbon disulfide ¹	ND	200	210	105		-	-	54-134	-	30
2-Butanone ¹	ND	500	400	80		-	-	57-116	-	30
Vinyl acetate ¹	ND	400	280	70		-	-	40-160	-	30
4-Methyl-2-pentanone ¹	ND	500	420	84		-	-	79-125	-	30
2-Hexanone ¹	ND	500	410	82		-	-	78-120	-	30
Acrolein ¹	ND	400	290	72		-	-	40-160	-	30
Acrylonitrile ¹	ND	400	360	90		-	-	66-123	-	30
Dibromomethane ¹	ND	200	210	105		-	•	65-126	-	30

Project Name: TRAIN WASH SAMPLE #2

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	Native	MS	MS	MS		MSD	MSD	Recovery		RPD
Parameter	Sample	Added	Found	%Recovery	Qual	Found	%Recovery	/ Qual Limits	RPD	Qual Limits

Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1001321-6 QC Sample: L1714667-01 Client ID: MS Sample

	MS	MSD	Acceptance
Surrogate	% Recovery Qualifier	% Recovery Qualifier	Criteria
4-Bromofluorobenzene	110		80-120
Fluorobenzene	115		80-120
Pentafluorobenzene	110		80-120



L1715142

Lab Duplicate Analysis Batch Quality Control

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number:

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Qual Limits
olatile Organics by GC/MS - Westborough Lab	Associated sample(s): 01	QC Batch ID: WG100	1321-5 QC Sa	ample: L171	4667-01 Client ID: DUP Sample
Methylene chloride	ND	ND	ug/l	NC	30
1,1-Dichloroethane	ND	ND	ug/l	NC	30
Chloroform	ND	ND	ug/l	NC	30
Carbon tetrachloride	12	12	ug/l	0	30
1,2-Dichloropropane	ND	ND	ug/l	NC	30
Dibromochloromethane	ND	ND	ug/l	NC	30
1,1,2-Trichloroethane	ND	ND	ug/l	NC	30
2-Chloroethylvinyl ether	ND	ND	ug/l	NC	30
Tetrachloroethene	ND	ND	ug/l	NC	30
Chlorobenzene	ND	ND	ug/l	NC	30
Trichlorofluoromethane	ND	ND	ug/l	NC	30
1,2-Dichloroethane	ND	ND	ug/l	NC	30
1,1,1-Trichloroethane	ND	ND	ug/l	NC	30
Bromodichloromethane	ND	ND	ug/l	NC	30
trans-1,3-Dichloropropene	ND	ND	ug/l	NC	30
cis-1,3-Dichloropropene	ND	ND	ug/l	NC	30
Bromoform	ND	ND	ug/l	NC	30
1,1,2,2-Tetrachloroethane	ND	ND	ug/l	NC	30
Benzene	ND	ND	ug/l	NC	30
Toluene	ND	ND	ug/l	NC	30
Ethylbenzene	ND	ND	ug/l	NC	30



Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number:

L1715142

Parameter	Native Sample	Duplicate Sampl	e Units	RPD	RPD Qual Limits
Volatile Organics by GC/MS - Westborough Lab	Associated sample(s): 01	QC Batch ID: WG1	001321-5 QC S	ample: L171	4667-01 Client ID: DUP Sample
Chloromethane	ND	ND	ug/l	NC	30
Bromomethane	ND	ND	ug/l	NC	30
Vinyl chloride	ND	ND	ug/l	NC	30
Chloroethane	ND	ND	ug/l	NC	30
1,1-Dichloroethene	ND	ND	ug/l	NC	30
trans-1,2-Dichloroethene	ND	ND	ug/l	NC	30
cis-1,2-Dichloroethene ¹	ND	ND	ug/l	NC	30
Trichloroethene	ND	ND	ug/l	NC	30
1,2-Dichlorobenzene	ND	ND	ug/l	NC	30
1,3-Dichlorobenzene	ND	ND	ug/l	NC	30
1,4-Dichlorobenzene	ND	ND	ug/l	NC	30
p/m-Xylene ¹	ND	ND	ug/l	NC	30
o-Xylene ¹	ND	ND	ug/l	NC	30
Xylene (Total) ¹	ND	ND	ug/l	NC	30
Styrene ¹	ND	ND	ug/l	NC	30
Acetone ¹	120	140	ug/l	15	30
Carbon disulfide ¹	ND	ND	ug/l	NC	30
2-Butanone ¹	ND	ND	ug/l	NC	30
Vinyl acetate ¹	ND	ND	ug/l	NC	30
4-Methyl-2-pentanone ¹	ND	ND	ug/l	NC	30
2-Hexanone ¹	ND	ND	ug/l	NC	30



L1715142

Lab Duplicate Analysis Batch Quality Control

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

rol Lab Number:

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Qual Limits
Volatile Organics by GC/MS - Westborough Lab	Associated sample(s): 01	QC Batch ID: WG10013	21-5 QC San	nple: L171	4667-01 Client ID: DUP Sample
Acrolein ¹	ND	ND	ug/l	NC	30
Acrylonitrile ¹	ND	ND	ug/l	NC	30
Dibromomethane ¹	ND	ND	ug/l	NC	30

			Acceptance	
Surrogate	%Recovery Qua	lifier %Recovery Qualifie	er Criteria	
Pentafluorobenzene	108	107	80-120	
Fluorobenzene	109	113	80-120	
4-Bromofluorobenzene	112	109	80-120	

SEMIVOLATILES



Serial_No:05171715:39

05/10/17 10:40

Not Specified

10

05/10/17

Date Collected:

Date Received:

Field Prep:

49

ug/l

Project Name: TRAIN WASH SAMPLE #2 Lab Number: L1715142

Project Number: Not Specified Report Date: 05/17/17

SAMPLE RESULTS

Lab ID: L1715142-01 D

Client ID: TRAIN WASH WATER #2 TRACK 3

Sample Location: CRMF 70R THIRD AVENUE, SOMMERVILLE, MA

Extraction Method:EPA 625

Water Extraction Date: 05/11/17 07:40

Matrix: Water Analytical Method: 5,625

Analytical Date: 05/15/17 00:23

Analyst: CB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	
Semivolatile Organics by GC/MS	- Westborough Lab						
Bis(2-ethylhexyl)phthalate	ND		ug/l	30		10	
Butyl benzyl phthalate	ND		ug/l	49		10	
Di-n-butylphthalate	ND		ug/l	49		10	
Di-n-octylphthalate	ND		ug/l	49		10	
Diethyl phthalate	ND		ug/l	49		10	
Dimethyl phthalate	ND		ug/l	49		10	

ND

Surrogate	% Recovery	Acceptance Qualifier Criteria	
2-Fluorophenol	49	21-120	
Phenol-d6	39	10-120	
Nitrobenzene-d5	65	23-120	
2-Fluorobiphenyl	61	15-120	
2,4,6-Tribromophenol	79	10-120	
4-Terphenyl-d14	76	33-120	



Phenol

L1715142

Lab Number:

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified Report Date: 05/17/17

Method Blank Analysis Batch Quality Control

Analytical Method: 5,625

Analytical Date: 05/14/17 21:26

Analyst: CB

Extraction Method: EPA 625

Extraction Date: 05/11/17 07:40

Parameter	Result	Qualifier Units	RL	MDL	
Semivolatile Organics by GC/MS -	Westborough	Lab for sample(s): 01 Batch:	WG1002336-1	
Bis(2-ethylhexyl)phthalate	ND	ug/l	3.0		
Butyl benzyl phthalate	ND	ug/l	5.0		
Di-n-butylphthalate	ND	ug/l	5.0		
Di-n-octylphthalate	ND	ug/l	5.0		
Diethyl phthalate	ND	ug/l	5.0		
Dimethyl phthalate	ND	ug/l	5.0		
Phenol	ND	ug/l	5.0		
Diethyl phthalate Dimethyl phthalate	ND ND	ug/l ug/l	5.0 5.0		

		Acceptance
Surrogate	%Recovery Qua	alifier Criteria
2-Fluorophenol	42	21-120
Phenol-d6	29	10-120
Nitrobenzene-d5	59	23-120
2-Fluorobiphenyl	64	15-120
2,4,6-Tribromophenol	58	10-120
4-Terphenyl-d14	71	33-120



Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number: L1715142

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	RPD Qual Limits	
Semivolatile Organics by GC/MS - Westbor	ough Lab Associ	ated sample(s): 01 Batch:	WG1002336-2	2			
Acenaphthene	101		-		47-145	-	30	
1,2,4-Trichlorobenzene	97		-		44-142	-	30	
Hexachlorobenzene	106		-		1-152	-	30	
Bis(2-chloroethyl)ether	95		-		12-158	-	30	
2-Chloronaphthalene	101		-		60-118	-	30	
3,3'-Dichlorobenzidine	37		-		1-262	-	30	
2,4-Dinitrotoluene	122		-		39-139	-	30	
2,6-Dinitrotoluene	114		-		50-158	-	30	
Fluoranthene	113		-		26-137	-	30	
4-Chlorophenyl phenyl ether	100		-		25-158	-	30	
4-Bromophenyl phenyl ether ¹	106		-		53-127	-	30	
Bis(2-chloroisopropyl)ether	88		-		36-166	-	30	
Bis(2-chloroethoxy)methane	101		-		33-184	-	30	
Hexachlorobutadiene	92		-		24-116	-	30	
Hexachloroethane	91		-		40-113	-	30	
Isophorone	105		-		21-196	-	30	
Naphthalene	94		-		21-133	-	30	
Nitrobenzene	103		-		35-180	-	30	
n-Nitrosodi-n-propylamine	101		-		1-230	-	30	
Bis(2-Ethylhexyl)phthalate	119		-		8-158	-	30	
Butyl benzyl phthalate	121		-		1-152	-	30	
Di-n-butylphthalate	124	Q	-		1-118	-	30	
Di-n-octylphthalate	151	Q	-		4-146	-	30	



Project Name: TRAIN WASH SAMPLE #2

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rameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
mivolatile Organics by GC/MS - Westbo	rough Lab Associ	ated sample(s): 01 Batch:	WG1002336-	-2				
Diethyl phthalate	107		-		1-114	-		30	
Dimethyl phthalate	109		-		1-112	-		30	
Benzo(a)anthracene	107		-		33-143	-		30	
Benzo(a)pyrene	167	Q	-		17-163	-		30	
Benzo(b)fluoranthene	167	Q	-		24-159	-		30	
Benzo(k)fluoranthene	157		-		11-162	-		30	
Chrysene	104		-		17-168	-		30	
Acenaphthylene	105		-		33-145	-		30	
Anthracene	106		-		27-133	-		30	
Benzo(ghi)perylene	83		-		1-219	-		30	
Fluorene	102		-		59-121	-		30	
Phenanthrene	102		-		54-120	-		30	
Dibenzo(a,h)anthracene	84		-		1-227	-		30	
Indeno(1,2,3-cd)Pyrene	78		-		1-171	-		30	
Pyrene	109		-		52-115	-		30	
2,4,6-Trichlorophenol	111		-		37-144	-		30	
P-Chloro-M-Cresol ¹	111		-		22-147	-		30	
2-Chlorophenol	102		-		23-134	-		30	
2,4-Dichlorophenol	118		-		39-135	-		30	
2,4-Dimethylphenol	68		-		32-119	-		30	
2-Nitrophenol	118		-		29-182	-		30	
4-Nitrophenol	76		-		1-132	-		30	
2,4-Dinitrophenol	114		-		1-191	-		30	



Project Name: TRAIN WASH SAMPLE #2 Lab Number:

L1715142

Project Number:

Not Specified

<u>Para</u>	meter	LCS %Recovery	Qual	_	SD overy	Qual	%Recovery Limits	RPD	Qual	RPD Limits	
Sem	ivolatile Organics by GC/MS - Westborou	ugh Lab Associa	ated sample(s):	01	Batch:	WG1002336-2	2				
4	-,6-Dinitro-o-cresol ¹	117			-		1-181	-		30	
F	Pentachlorophenol	102			-		14-176	-		30	
F	Phenol	50			-		5-112	-		30	

	LCS	LCSD	Acceptance
Surrogate	%Recovery Qual	%Recovery Qual	Criteria
2-Fluorophenol	105		21-120
Phenol-d6	49		10-120
Nitrobenzene-d5	103		23-120
2-Fluorobiphenyl	100		15-120
2,4,6-Tribromophenol	99		10-120
4-Terphenyl-d14	107		33-120



L1715142

Matrix Spike Analysis Batch Quality Control

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number:

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recover		covery imits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/	MS - Westbor	ough Lab	Associated sar	mple(s): 01 (QC Batch I	D: WG100	2336-3 QC	Sample: L17	715012-0	1 Clie	ent ID: N	IS Sample
Acenaphthene	ND	40	31	78		-	-	4	7-145	-		30
1,2,4-Trichlorobenzene	ND	40	ND	0		-	-	4	4-142	-		30
Hexachlorobenzene	ND	40	31	78		-	-	•	1-152	-		30
Bis(2-chloroethyl)ether	ND	40	34	85		-	-	1	2-158	-		30
2-Chloronaphthalene	ND	40	31	78		-	-	6	0-118	-		30
3,3'-Dichlorobenzidine	ND	80	ND	0	Q	-	-	•	1-262	-		30
2,4-Dinitrotoluene	ND	40	36	90		-	-	3	9-139	-		30
2,6-Dinitrotoluene	ND	40	33	83		-	-	5	0-158	-		30
Fluoranthene	ND	40	36	90		-	-	2	6-137	-		30
4-Chlorophenyl phenyl ether	ND	40	32	80		-	-	2	5-158	-		30
4-Bromophenyl phenyl ether ¹	ND	40	33	83		-	-	5	3-127	-		30
Bis(2-chloroisopropyl)ether	ND	40	21	53		-	-	3	6-166	-		30
Bis(2-chloroethoxy)methane	ND	40	ND	0	Q	-	-	3	3-184	-		30
Hexachlorobutadiene	ND	40	26	65		-	-	2	4-116	-		30
Hexachloroethane	ND	40	18	45		-	-	4	0-113	-		30
Isophorone	ND	40	ND	0	Q	-	-	2	1-196	-		30
Naphthalene	ND	40	29	73		-	-	2	1-133	-		30
Nitrobenzene	ND	40	24	60		-	-	3	5-180	-		30
n-Nitrosodi-n-propylamine	ND	40	ND	0	Q	-	-		1-230	-		30
Bis(2-Ethylhexyl)phthalate	ND	40	39	98		-	-	8	3-158	-		30
Butyl benzyl phthalate	ND	40	39	98		-	-		1-152	-		30
Di-n-butylphthalate	ND	40	40	100		-	-		1-118	-		30
Di-n-octylphthalate	ND	40	39	98		-	-	4	4-146	-		30
Diethyl phthalate	ND	40	34	85		-	-	•	1-114	-		30

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number: L1715142

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery		Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by	GC/MS - Westbor	ough Lab	Associated sa	mple(s): 01 C	QC Batch II	D: WG100	2336-3 QC	Sample: I	_1715012-0	01 Clie	ent ID: M	1S Sample
Dimethyl phthalate	ND	40	33	83		-	-		1-112	-		30
Benzo(a)anthracene	ND	40	32	80		-	-		33-143	-		30
Benzo(a)pyrene	ND	40	22	55		-	-		17-163	-		30
Benzo(b)fluoranthene	ND	40	35	88		-	-		24-159	-		30
Benzo(k)fluoranthene	ND	40	35	88		-	-		11-162	-		30
Chrysene	ND	40	32	80		-	-		17-168	-		30
Acenaphthylene	ND	40	28	70		-	-		33-145	-		30
Anthracene	ND	40	23	58		-	-		27-133	-		30
Benzo(ghi)perylene	ND	40	36	90		-	-		1-219	-		30
Fluorene	ND	40	33	83		-	-		59-121	-		30
Phenanthrene	ND	40	32	80		-	-		54-120	-		30
Dibenzo(a,h)anthracene	ND	40	35	88		-	-		1-227	-		30
Indeno(1,2,3-cd)Pyrene	ND	40	37	93		-	-		1-171	-		30
Pyrene	ND	40	34	85		-	-		52-115	-		30
2,4,6-Trichlorophenol	ND	40	36	90		-	-		37-144	-		30
P-Chloro-M-Cresol ¹	ND	40	36	90		-	-		22-147	-		30
2-Chlorophenol	ND	40	35	88		-	-		23-134	-		30
2,4-Dichlorophenol	ND	40	27	68		-	-		39-135	-		30
2,4-Dimethylphenol	ND	40	ND	0	Q	-	-		32-119	-		30
2-Nitrophenol	ND	40	26	65		-	-		29-182	-		30
4-Nitrophenol	ND	40	ND	0	Q	-	-		1-132	-		30
2,4-Dinitrophenol	ND	40	ND	0	Q	-	-		1-191	-		30
4,6-Dinitro-o-cresol1	ND	40	ND	0	Q	-	-		1-181	-		30
Pentachlorophenol	ND	40	32	80		-	-		14-176	-		30

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number:

L1715142

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	/ Qual	MSD Found	MSD %Recovery	Reco Qual Lin	- ,	PD Qual	RPD Limits
Semivolatile Organics by G	C/MS - Westbore	ough Lab	Associated sam	nple(s): 01 (QC Batch II	D: WG1002	2336-3 QC	Sample: L171	5012-01	Client ID: M	IS Sample
Phenol	ND	40	ND	0	Q	-	-	5-1	12	-	30

	MS	MSD	Acceptance	
Surrogate	% Recovery Qualifier	% Recovery Qualifier	Criteria	
2,4,6-Tribromophenol	93		10-120	
2-Fluorobiphenyl	84		15-120	
2-Fluorophenol	58		21-120	
4-Terphenyl-d14	93		33-120	
Nitrobenzene-d5	62		23-120	
Phenol-d6	46		10-120	



Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number: L1715142

Parameter	Native Sample	Duplicate Sampl	e Units	RPD	RPD Qual Limi	
Semivolatile Organics by GC/MS - Westborough Lab Sample	Associated sample(s):	01 QC Batch ID:	WG1002336-4	QC Sample:	L1715236-01 Clie	nt ID: DUP
Acenaphthene	ND	ND	ug/l	NC	30)
Benzidine ¹	ND	ND	ug/l	NC	30)
1,2,4-Trichlorobenzene	ND	ND	ug/l	NC	30)
Hexachlorobenzene	ND	ND	ug/l	NC	30)
Bis(2-chloroethyl)ether	ND	ND	ug/l	NC	30)
2-Chloronaphthalene	ND	ND	ug/l	NC	30)
3,3'-Dichlorobenzidine	ND	ND	ug/l	NC	30)
2,4-Dinitrotoluene	ND	ND	ug/l	NC	30)
2,6-Dinitrotoluene	ND	ND	ug/l	NC	30)
Azobenzene ¹	ND	ND	ug/l	NC	30)
Fluoranthene	ND	ND	ug/l	NC	30)
4-Chlorophenyl phenyl ether	ND	ND	ug/l	NC	30)
4-Bromophenyl phenyl ether ¹	ND	ND	ug/l	NC	30)
Bis(2-chloroisopropyl)ether	ND	ND	ug/l	NC	30)
Bis(2-chloroethoxy)methane	ND	ND	ug/l	NC	30)
Hexachlorobutadiene	ND	ND	ug/l	NC	30)
Hexachlorocyclopentadiene ¹	ND	ND	ug/l	NC	30)
Hexachloroethane	ND	ND	ug/l	NC	30)
Isophorone	ND	ND	ug/l	NC	30)
Naphthalene	ND	ND	ug/l	NC	30)
Nitrobenzene	ND	ND	ug/l	NC	30)



Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number:

L1715142

Parameter	Native Sample	Duplicate Sample	e Units	RPD	RPD Qual Limits	
Semivolatile Organics by GC/MS - Westborough Lab Sample	Associated sample(s): (01 QC Batch ID:	WG1002336-4	QC Sample:	L1715236-01 Client ID: DU	IP
NitrosoDiPhenylAmine(NDPA)/DPA1	ND	ND	ug/l	NC	30	
n-Nitrosodi-n-propylamine	ND	ND	ug/l	NC	30	
Bis(2-Ethylhexyl)phthalate	ND	ND	ug/l	NC	30	
Butyl benzyl phthalate	ND	ND	ug/l	NC	30	
Di-n-butylphthalate	ND	ND	ug/l	NC	30	
Di-n-octylphthalate	ND	ND	ug/l	NC	30	
Diethyl phthalate	ND	ND	ug/l	NC	30	
Dimethyl phthalate	ND	ND	ug/l	NC	30	
Benzo(a)anthracene	ND	ND	ug/l	NC	30	
Benzo(a)pyrene	ND	ND	ug/l	NC	30	
Benzo(b)fluoranthene	ND	ND	ug/l	NC	30	
Benzo(k)fluoranthene	ND	ND	ug/l	NC	30	
Chrysene	ND	ND	ug/l	NC	30	
Acenaphthylene	ND	ND	ug/l	NC	30	
Anthracene	ND	ND	ug/l	NC	30	
Benzo(ghi)perylene	ND	ND	ug/l	NC	30	
Fluorene	ND	ND	ug/l	NC	30	
Phenanthrene	ND	ND	ug/l	NC	30	
Dibenzo(a,h)anthracene	ND	ND	ug/l	NC	30	
Indeno(1,2,3-cd)Pyrene	ND	ND	ug/l	NC	30	
Pyrene	ND	ND	ug/l	NC	30	



Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number: L1715142

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Qual Limits
Semivolatile Organics by GC/MS - Westborough Lab Sample	Associated sample(s):	01 QC Batch ID: W	G1002336-4	QC Sample:	L1715236-01 Client ID: DUP
Biphenyl ¹	ND	ND	ug/l	NC	30
Aniline ¹	ND	ND	ug/l	NC	30
4-Chloroaniline ¹	ND	ND	ug/l	NC	30
1-Methylnaphthalene ¹	ND	ND	ug/l	NC	30
2-Nitroaniline ¹	ND	ND	ug/l	NC	30
3-Nitroaniline ¹	ND	ND	ug/l	NC	30
4-Nitroaniline ¹	ND	ND	ug/l	NC	30
Dibenzofuran ¹	ND	ND	ug/l	NC	30
2-Methylnaphthalene ¹	ND	ND	ug/l	NC	30
Acetophenone ¹	ND	ND	ug/l	NC	30
n-Nitrosodimethylamine ¹	ND	ND	ug/l	NC	30
2,4,6-Trichlorophenol	ND	ND	ug/l	NC	30
P-Chloro-M-Cresol ¹	ND	ND	ug/l	NC	30
2-Chlorophenol	ND	ND	ug/l	NC	30
2,4-Dichlorophenol	ND	ND	ug/l	NC	30
2,4-Dimethylphenol	ND	ND	ug/l	NC	30
2-Nitrophenol	ND	ND	ug/l	NC	30
4-Nitrophenol	ND	ND	ug/l	NC	30
2,4-Dinitrophenol	ND	ND	ug/l	NC	30
4,6-Dinitro-o-cresol ¹	ND	ND	ug/l	NC	30
Pentachlorophenol	ND	ND	ug/l	NC	30



Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number: L1715142

ırameter	Native Sample Duplicate Sample		Units	RPD	RPD Qual Limits
mivolatile Organics by GC/MS - Westborough Lab	Associated sample(s): 0	1 QC Batch ID: W	G1002336-4	QC Sample:	L1715236-01 Client ID: DUP
Phenol	110	130	ug/l	17	30
2-Methylphenol ¹	ND	ND	ug/l	NC	30
3-Methylphenol/4-Methylphenol ¹	ND	110	ug/l	NC	30
2,4,5-Trichlorophenol ¹	ND	ND	ug/l	NC	30
Benzoic Acid ¹	ND	ND	ug/l	NC	30
Benzyl Alcohol ¹	ND	45	ug/l	NC	30
Carbazole ¹	ND	ND	ug/l	NC	30
Pyridine ¹	ND	ND	ug/l	NC	30
n-Decane ¹	ND	ND	ug/l	NC	30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	0	Q	0	Q	21-120
Phenol-d6	0	Q	0	Q	10-120
Nitrobenzene-d5	0	Q	0	Q	23-120
2-Fluorobiphenyl	0	Q	0	Q	15-120
2,4,6-Tribromophenol	0	Q	0	Q	10-120
4-Terphenyl-d14	0	Q	0	Q	33-120



METALS



Serial_No:05171715:39

Project Name: TRAIN WASH SAMPLE #2 Lab Number: L1715142

Project Number: Not Specified Report Date: 05/17/17

SAMPLE RESULTS

Lab ID: L1715142-01 Date Collected: 05/10/17 10:40

Client ID: TRAIN WASH WATER #2 TRACK 3 Date Received: 05/10/17
Sample Location: CRMF 70R THIRD AVENUE, SOMMERV Field Prep: Not Specified

Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mans	sfield Lab										
Cadmium, Total	0.00524		mg/l	0.00100		1	05/11/17 11:30	6 05/12/17 11:27	EPA 3005A	3,200.8	AM
Lead, Total	0.1044		mg/l	0.00100		1	05/11/17 11:30	6 05/12/17 11:27	EPA 3005A	3,200.8	AM
Zinc, Total	1.363		mg/l	0.01000		1	05/11/17 11:30	6 05/12/17 11:27	EPA 3005A	3,200.8	AM
Low-Level Mercury	- Mansfiel	d Lab									
Mercury, Total	0.0094		ug/l	0.0005		1	05/17/17 08:10	0 05/17/17 11:15	EPA 1631E	82,1631E	LC



Serial_No:05171715:39

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number:

L1715142

Report Date: 05/17/17

Method Blank Analysis Batch Quality Control

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytica Method	l Analyst
Total Metals - Mansfield	Lab for sample(s):	01 Batc	h: WG10	02425	·1				
Cadmium, Total	ND	mg/l	0.00100		1	05/11/17 11:36	05/12/17 09:13	3,200.8	AM
Lead, Total	ND	mg/l	0.00100		1	05/11/17 11:36	05/12/17 09:13	3,200.8	AM
Zinc, Total	ND	mg/l	0.01000		1	05/11/17 11:36	05/12/17 09:13	3,200.8	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	
Low-Level Mercury -	- Mansfield Lab for sam	ole(s): 01	Batch:	WG10	04299-1				
Mercury, Total	ND	ug/l	0.0005		1	05/17/17 08:10	05/17/17 10:37	82,1631E	LC

Prep Information

Digestion Method: EPA 1631E



Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number:

L1715142

Report Date:

05/17/17

Parameter	LCS %Recovery	Qual	LCSD %Recovery	' Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample	e(s): 01 Batch:	WG1002425	-2					
Cadmium, Total	112		-		85-115	-		
Lead, Total	107		-		85-115	-		
Zinc, Total	106		-		85-115	-		
Low-Level Mercury - Mansfield Lab Associated	sample(s): 01	Batch: WG10	004299-2 S	SRM Lot Numbe	er: HG-LOW			
Mercury, Total	100		-		77-123	-		24



Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number: L1715142

arameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
otal Metals - Mansfield Lab	o Associated sam	nple(s): 01	QC Batch II	D: WG100242	5-3 (QC Sample	: L1715042-01	Clien	t ID: MS Sa	ample		
Cadmium, Total	ND	0.051	0.05366	105		-	-		70-130	-		20
Lead, Total	0.0018	0.51	0.5301	104		-	-		70-130	-		20
Zinc, Total	0.1004	0.5	0.6007	100		-	-		70-130	-		20
otal Metals - Mansfield Lab	Associated sam	nple(s): 01	QC Batch II	D: WG100242	5-5 (QC Sample	: L1715058-01	Clien	t ID: MS Sa	ample		
Cadmium, Total	ND	0.051	0.05675	111		-	-		70-130	-		20
Lead, Total	ND	0.51	0.5306	104		-	-		70-130	-		20
Zinc, Total	ND	0.5	0.5221	104					70-130			20

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number:

L1715142

Report Date:

05/17/17

Parameter	Native Sample Dr	uplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01	QC Batch ID: WG1002425-	4 QC Sample:	L1715042-01	Client ID:	DUP Sample	
Lead, Total	0.0018	0.00183	mg/l	1		20
Total Metals - Mansfield Lab Associated sample(s): 01	QC Batch ID: WG1002425-	6 QC Sample:	L1715058-01	Client ID:	DUP Sample	
Cadmium, Total	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Zinc, Total	ND	ND	mg/l	NC		20

INORGANICS & MISCELLANEOUS



Serial_No:05171715:39

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified Lab Number:

L1715142

Report Date:

05/17/17

SAMPLE RESULTS

Lab ID: L1715142-01

TRAIN WASH WATER #2 TRACK 3

CRMF 70R THIRD AVENUE, SOMMERV Sample Location:

Matrix: Water

Client ID:

Date Collected:

05/10/17 10:40

Date Received:

05/10/17

Field Prep:

Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Wes	stborough Lab)								
Solids, Total Suspended	72.		mg/l	1.0	NA	1	-	05/12/17 03:20	121,2540D	VB
Oil & Grease, Hem-Grav	ND		mg/l	5.6		1.4	05/12/17 16:00	05/12/17 21:00	74,1664A	ML
Chromium, Hexavalent	ND		mg/l	0.050		5	05/11/17 00:15	05/11/17 01:11	1,7196A	KA



Serial_No:05171715:39

L1715142

Lab Number:

Project Name: TRAIN WASH SAMPLE #2

Report Date: Project Number: Not Specified 05/17/17

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Method	Blank	Analysis
Batch	Quality	Control

Parameter	Result Qualit	fier Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - We	estborough Lab for	sample(s): 01	Batch:	WG10	02271-1				
Chromium, Hexavalent	ND	mg/l	0.010		1	05/11/17 00:15	05/11/17 01:08	1,7196A	KA
General Chemistry - We	estborough Lab for	sample(s): 01	Batch:	WG10	02711-1				
Solids, Total Suspended	ND	mg/l	1.0	NA	1	-	05/12/17 03:20	121,2540D	VB
General Chemistry - We	estborough Lab for	sample(s): 01	Batch:	WG10	03009-1				
Oil & Grease, Hem-Grav	ND	mg/l	4.0		1	05/12/17 16:00	05/12/17 21:00	74,1664A	ML



Lab Control Sample Analysis Batch Quality Control

78-114

Project Name: TRAIN WASH SAMPLE #2

Project Number:

Oil & Grease, Hem-Grav

Not Specified

General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1003009-2

85

Lab Number:

L1715142

05/17/17

18

Report Date:

Parameter	LCS %Recovery Qua	LCSD al %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab A	ssociated sample(s): 01	Batch: WG1002271-2	2				
Chromium, Hexavalent	92	-		85-115	-		20



Matrix Spike Analysis Batch Quality Control

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number:

L1715142

Report Date: 05/17/17

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual Found	MSD %Recovery	Recovery Qual Limits	RPD Qua	RPD Limits
General Chemistry - Westborou #2 TRACK 3	ugh Lab Asso	ciated samp	le(s): 01	QC Batch ID: \	WG1002271-4	QC Sample: L17	15142-01 Client	ID: TRAIN V	WASH WATER
Chromium, Hexavalent	ND	0.5	0.283	57	Q -	-	85-115	-	20
General Chemistry - Westborou	ugh Lab Asso	ciated samp	le(s): 01	QC Batch ID: \	WG1003009-4	QC Sample: L17	14835-01 Client	ID: MS Sam	ple
Oil & Grease, Hem-Grav	ND	47.1	42	90		-	78-114	-	18



Lab Duplicate Analysis Batch Quality Control

Project Name: TRAIN WASH SAMPLE #2

Project Number: Not Specified

Lab Number:

L1715142

Report Date:

05/17/17

Parameter	Native S	Sample	Duplicate Sam	ple Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab #2 TRACK 3	Associated sample(s): 01	QC Batch ID:	WG1002271-3	QC Sample: L	1715142-01	Client ID:	TRAIN WASH WATE
Chromium, Hexavalent	NI)	ND	mg/l	NC		20
General Chemistry - Westborough Lab	Associated sample(s): 01	QC Batch ID:	WG1002711-2	QC Sample: L	1714998-02	Client ID:	DUP Sample
Solids, Total Suspended	61	0	520	mg/l	16		29
General Chemistry - Westborough Lab	Associated sample(s): 01	QC Batch ID:	WG1003009-3	QC Sample: L	1714834-01	Client ID:	DUP Sample
Oil & Grease, Hem-Grav	NI)	ND	mg/l	NC		18

Serial_No:05171715:39

Project Name: TRAIN WASH SAMPLE #2

Lab Number: L1715142 Project Number: Not Specified **Report Date:** 05/17/17

Sample Receipt and Container Information

YES Were project specific reporting limits specified?

Cooler Information Custody Seal

Cooler

Α Absent

Container Info	rmation			Temp			
Container ID	Container Type	Cooler	pН	deg C	Pres	Seal	Analysis(*)
L1715142-01A	Vial Na2S2O3 preserved	Α	N/A	2.1	Υ	Absent	624(3)
L1715142-01B	Vial Na2S2O3 preserved	Α	N/A	2.1	Υ	Absent	624(3)
L1715142-01C	Vial Na2S2O3 preserved	Α	N/A	2.1	Υ	Absent	624(3)
L1715142-01E	Plastic 250ml HNO3 preserved	Α	<2	2.1	Y	Absent	CD-2008T(180),ZN- 2008T(180),PB-2008T(180)
L1715142-01F	Amber 1000ml HCl preserved	Α	N/A	2.1	Υ	Absent	OG-1664(28)
L1715142-01G	Amber 1000ml HCl preserved	Α	N/A	2.1	Υ	Absent	OG-1664(28)
L1715142-01H	Plastic 950ml unpreserved	Α	7	2.1	Υ	Absent	TSS-2540-LOW(7)
L1715142-01J	Amber 1000ml Na2S2O3	Α	7	2.1	Υ	Absent	625(7)
L1715142-01K	Amber 1000ml Na2S2O3	Α	7	2.1	Υ	Absent	625(7)
L1715142-01L	Plastic 250ml unpreserved	Α	7	2.1	Υ	Absent	HEXCR-7196(1)
L1715142-01M	Teflon 250ml HCl preserved	Α	<2	2.1	Υ	Absent	A2-HG-1631(28)



Project Name:TRAIN WASH SAMPLE #2Lab Number:L1715142Project Number:Not SpecifiedReport Date:05/17/17

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated

values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis

of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of

analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any

adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for

which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's

reporting unit.

NDPA/DPA - N-Nitrosodiphenylamine/Diphenylamine.

NI - Not Ignitable.

NP - Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL

includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less

than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the

values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the

associated field samples.

STLP - Semi-dynamic Tank Leaching Procedure per EPA Method 1315.

TIC - Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound

list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Footnotes

- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a "Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the

Report Format: Data Usability Report



Project Name:TRAIN WASH SAMPLE #2Lab Number:L1715142Project Number:Not SpecifiedReport Date:05/17/17

Data Qualifiers

- reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- G The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
- H The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I The lower value for the two columns has been reported due to obvious interference.
- M Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.
- NJ Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P The RPD between the results for the two columns exceeds the method-specified criteria.
- Q The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R Analytical results are from sample re-analysis.
- RE Analytical results are from sample re-extraction.
- S Analytical results are from modified screening analysis.
- J Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- **ND** Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report



Project Name:TRAIN WASH SAMPLE #2Lab Number:L1715142Project Number:Not SpecifiedReport Date:05/17/17

REFERENCES

- Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I IV, 2007.
- Methods for the Determination of Metals in Environmental Samples, Supplement I. EPA/600/R-94/111. May 1994.
- Methods for the Organic Chemical Analysis of Municipal and Industrial Wastewater. Appendix A, Part 136, 40 CFR (Code of Federal Regulations).
- Method 1664,Revision A: N-Hexane Extractable Material (HEM; Oil & Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry, EPA-821-R-98-002, February 1999.
- Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry. USEPA Office of Water, EPA Method 1631 Revision E, EPA-821-R-02-019, August 2002.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Serial_No:05171715:39

Alpha Analytical, Inc. Facility: Company-wide

Department: Quality Assurance

Title: Certificate/Approval Program Summary

ID No.:17873 Revision 10

Published Date: 1/16/2017 11:00:05 AM

Page 1 of 1

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility

EPA 624: m/p-xylene, o-xylene

EPA 8260C: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), Methyl methacrylate, 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270D: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

EPA 300: DW: Bromide

EPA 6860: NPW and SCM: Perchlorate

EPA 9010: NPW and SCM: Amenable Cyanide Distillation

EPA 9012B: NPW: Total Cyanide EPA 9050A: NPW: Specific Conductance

SM3500: NPW: Ferrous Iron

SM4500: NPW: Amenable Cyanide, Dissolved Oxygen; SCM: Total Phosphorus, TKN, NO2, NO3.

SM5310C: DW: Dissolved Organic Carbon

Mansfield Facility

SM 2540D: TSS EPA 3005A NPW

EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water

EPA 300.0: Nitrate-N, Fluoride, Sulfate; EPA 353.2: Nitrate-N, Nitrite-N; SM4500NO3-F: Nitrate-N, Nitrite-N; SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500CI-D, SM2320B, SM2540C, SM4500H-B

EPA 332: Perchlorate; EPA 524.2: THMs and VOCs; EPA 504.1: EDB, DBCP.

Microbiology: SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D.

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH, EPA 350.1: Ammonia-N, LACHAT 10-107-06-1-B: Ammonia-N, SM4500NO3-F, EPA 353.2: Nitrate-N, EPA 351.1, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D.

EPA 624: Volatile Halocarbons & Aromatics,

EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan II, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625: SVOC (Acid/Base/Neutral Extractables), EPA 600/4-81-045: PCB-Oil.

Microbiology: SM9223B-Colilert-QT; Enterolert-QT, SM9221E.

Mansfield Facility:

Drinking Water

EPA 200.7: Ba, Be, Cd, Cr, Cu, Ni, Na, Ca. EPA 200.8: Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Ni, Se, TL. EPA 245.1 Hg.

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn.

EPA 245.1 Hg.

SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

Document Type: Form

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April 28, 2017

Marian Rambelle CDW Consultants, Inc. 40 Speen Street Suite 301 Framingham, MA 01701 Subject: Train Wash Water

Alpha Quote Number: 2910

Dear Marian,

Alpha Analytical is pleased to provide the following analytical cost proposal. A table with the project pricing is attached. Thank you for this opportunity. If you have any questions, or concerns, you may reach me directly at 508-439-5157.

Sincerely yours,

Dave Sanford

Attachment

Project Manager



Date April 28, 2017

Subject Train Wash Water

Quote # 2910

WATER				
AMETER EPA 624, Acrolein and Benzene EPA 625, Phenol and Phthalates Mercury (AF) Cadmium - EPA 200.8 valent Chromium - EPA 7196 Grease-Hexane Method - EPA	METHOD 624 625 1631E 200.8 7196A 1664A	# OF SAMPLES 3 3 3 3 3 3	\$137.00 \$236.00 \$110.00 \$12.00 \$20.00 \$110.00	EXTENDED TOTAL \$411.00 \$708.00 \$330.00 \$60.00
Total Lead - EPA 200.8 Total Suspended Solids - SM 2540 (low 2540D level)	200.8 2540D	ოო	\$12.00	\$36.00
Total Zinc - EPA 200.8	200.8	3	\$12.00	\$36.00
	Andrea manufacture and the same of the sam		TOTAL	\$2004.00

 Laboratory method blanks, laboratory control spikes (LCS/LCSD) are analyzed at no additional cost. If trip blanks, or
other field QC such as matrix spikes (MS/MSD), duplicates, or field blanks/equipment blanks are required, they are billed at the unit prices.

\$2004.00

Samples are disposed 21 days after invoicing unless prior arrangements have been made. Samples that require storage beyond 21 days will be billed a storage fee of \$5.00/sample/month for extended and monitored frozen storage.

3. Bottles, preservatives, and coolers will be provided at no additional cost.

Federal, QAPP, or other project criteria do not represent a guarantee. Actual field sample results will differ depending on site-specific field conditions and various factors such as high moisture, high levels of sulfur and/or organic matter, and high concentrations of non-target and/or target analytes. 5. Samples cannot be logged in and turnaround time clock will not start until any ambiguities are resolved. Surcharge Laboratory reporting limits (RLs) are based on clean, 100% dry reference material. Lab RLs as compared to State,

fees will be applied when response is not received within 24 hours and original requested turnaround time is still

6. Any samples that are received on hold and are not analyzed will incur a \$50 fee per batch of samples. (Batch defined as up to 20 samples.)



Date April 28, 2017

Subject Train Wash Water

Quote # 2910

7. Turnaround time is an estimate and may vary depending on laboratory capacity at the time of sample receipt. Alpha Analytical reserves the right to revise the turnaround time accordingly, should the scope and/or schedule of the project change.

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Terms & Conditions

In the absence of a written agreement to the contrary, this order constitutes an acceptance by the Client of Alpha Analytical, Inc. (ALPHA)'s If offer to do business under these Terms and Conditions, and agrees to be bound by these conditions. Any terms and conditions from Client's handling, transport or processing for any health, safety, environmental or any other reason; c) holding times cannot be met due to passage of more than 48 hours from the time of sampling or ½ the holding time for the requested test, whichever is less. ALPHA. Any provisions of Terms and Conditions held in violation of any law or ordinance shall be stricken, and all remaining provisions shall continue valid and binding. This order shall not be valid unless it contains sufficient specifications to enable ALPHA to carry out the the Client does not respond within one business day, the turnaround time for any deliverables will be extended by the same number of business turnaround times, calculated from the point in time when ALPHA has determined that it can proceed with the defined work to be done (Sample Delivery Acceptance). The Client is required to respond to questions about the order within one business day of request by ALPHA. that do not conform to the terms and conditions contained herein shall be deemed invalid and unenforceable, unless accepted in writing by Client's requirements. Samples must be accompanied by: a) adequate instruction as to the quantity and type of analysis requested, and b) Acceptance for any sample which in the sole judgment of ALPHA: a) is unsuitable volume; b) may pose a risk or become unsuitable for reporting and billing address information. Upon timely delivery of samples, ALPHA will use its best efforts to meet mutually agreed days ALPHA was delayed in receiving a response from the Client. ALPHA reserves the right, to refuse or revoke Sample Delivery

invoices where required by law. Payment in advance is required for all Clients except those whose credit has been established with ALPHA. agreed to in writing. All overdue payments are subject to an interest and service charge of one and one half percent (1.5%) (Or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or data under this order at any time in the event that the Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. Data or information provided to ALPHA or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by ALPHA of payment for the entire Order. billed directly to the Client. The billing of third parties will not be accepted without a prepayment from the third party or a signed credit agreement from the third party that acknowledges and accepts payment responsibility. ALPHA may suspend work and withhold delivery of For Clients with approved credit, payment terms are Net 30 days from the date of the invoice by ALPHA unless other payment terms are Client agrees to pay for all applicable charges to process this order. Prices do not include sales tax. Applicable sales tax will be added to

ALPHA reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of Quality Manuals. Client may request that ALPHA perform according to a mutually agreed upon Quality Assurance Project Plan (QAPP). In ALPHA will use analytical methodologies which are in substantial conformity with published test methods. ALPHA has implemented these the event that samples arrive without a prior agreement on a QAPP, ALPHA will proceed with analyses under its standard Quality Manuals ALPHA. Deviations, if any, will be made on a basis consistent with the recognized standards of the industry and/or ALPHA's Laboratory methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures where the nature or composition of the samples then in effect, and ALPHA will not be responsible for any re-sampling or other changes if work must be repeated to comply with the ALPHA's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or \$100.00. All claims, including those for negligence, shall be arising in contract, tort (including negligence), or otherwise, shall ALPHA be responsible for loss of use, loss of profits or for any special, deemed waived unless suit therein is filed within one year after ALPHA's completion of the services. Under no circumstances, whether indirect, incidental or consequential damages occasioned by the services performed by application or use of the reports prepared.

In no event shall ALPHA have any responsibility or liability to the Client for any failure or delay in performance by ALPHA which results, directly or indirectly in whole or in part, from any cause or circumstance beyond the reasonable control of ALPHA.

ALPHA shall dispose of the Client's samples 21 calendar days after the analytical report is issued, unless instructed to store them for an alternate period of time or return such samples to the Client. The return of samples will be at the Client's own expense.



145 Flanders Road, Westborough, Massachusetts 01581 + 508-898-9220 - www.alphalab.com

Westborough, MA • Mansfield, MA • Bangor, ME • Portsmouth, NH • Mahwah, NJ • Albany, NY • Buffalo, NY • Hofmes, PA